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IMPLEMENTATION PLAN REVIEW FOR TENNESSEE AS REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

Environmental Protection Agency

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Argonne National Laboratory

April 1975

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Section IV of the Energy Supply and Environmental Coordination Act of 1974, (ESECA) requires EPA to review each State Implementation Plan (SIP) to determine if revisions can be made to control regulations for stationary fuel combustion sources without interfering with the attainment and maintenance of the national ambient air quality standards. This document, which is also required by Section IV of ESECA, is EPA's report to the State indicating where regulations might be revised.

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FOR
TENNESSEE
AS REQUIRED
BY
THE ENERGY SUPPLY
AND
ENVIRONMENTAL COORDINATION ACT

U. S. ENVIRONMENTAL PROTECTION AGENCY

EPA-450/3-75-041

TENNESSEE

ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

SECTION IV - STATE IMPLEMENTATION PLAN REVIEW

PREPARED BY THE FOLLOWING TASK FORCE:

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U.S. Environmental Protection Agency
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Research Triangle Park, North Carolina 27711

April 1975

IMPLEMENTATION PLAN REVIEW

FOR

TENNESSEE

Required by the Energy Supply and Environmental Coordination Act

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IMPLEMENTATION PLAN REVIEW

FOR

THE STATE OF TENNESSEE

REQUIRED BY THE ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT

1.0 EXECUTIVE SUMMARY

The enclosed report is the U. S. Environmental Protection Agency's (EPA's) response to Section IV of the Energy Supply and Environmental Coordination Act of 1974 (ESECA). Section IV requires EPA to review each State Implememtation Plan (SIP) to determine if control regulations for stationary fuel combustion can be revised without interfering with the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). In addition to requiring that EPA advise the state as to whether control regulations can be revised, ESECA provides that EPA must approve or disapprove any revised regulations relating to fuel burning stationary sources within three months after they are submitted to EPA by the states. The states may, as under the Clean Air Act of 1970, initiate State Implementation Plan revisions; ESECA does not, however, require states to change any existing plan.

Congress has intended that this report provide the state with information on excessively restrictive control regulations. The intent of ESECA is that SIPs, wherever possible, be revised in the interest of conserving low-sulfur fuels or converting to coal, sources which burn oil or natural gas. EPA's objective in carrying out the SIP reviews, therefore, has been to try to determine if emissions from certain combustion sources may be increased without interfering with the attainment and maintenance of standards. If so, it may be possible through altered resource allocations to effect significant "clean fuel savings" in a manner consistent with both environmental and national energy needs.

In many respects, the ESECA SIP reviews parallel the implementation of EPA's policy on clean fuels. Under the Clean Fuels Policy, implementation plans have been reviewed with a view to saving low sulfur fuels. Where the primary sulfur dioxide air quality standards will not be exceeded, states have been encouraged to either defer attainment of secondary standards or to revise the SO_2 emission regulations. The states have also been asked to discourage large-scale shifts from coal to oil where this could be done without jeopardizing the attainment and maintenance of the NAAQS.

To date, this activity has involved only those states with the largest clean fuels savings potentials. Several of these states have revised or are currently in the process of revising their SO_2 regulations. These states are generally in the eastern half of the United States. ESECA, however, requires the analysis of potentially over-restrictive regulations in all 55 states and territories. In addition, the current reviews address the attainment and maintenance of all the National Ambient Air Quality Standards.

The adoption of emission limitations which may, in some areas of the states, be overly restrictive (or not restrictive enough) resulted largely from the use of the "example region" approach along with analyses which considered the "hot spots" of an Air Quality Control Region (AQCR) rather than the entire region. This type of approach was offered in EPA guidelines for plan development when states were preparing their original plans. Many states, through concurrence with EPA, adopted the example region approach, largely because of the short timetable dictated by the Clean Air Act. Also, in most cases, the original SIPs were designed to attain and maintain the original NAAQS, some of which have since been designated as "guides" only or actually rescinded. However, many states adopted and retained the original federal standards or, in a few cases, adopted more restrictive state standards, and these served as the basis on which their SIPs were approved. As a result, the requirements of many state plans conflict with legitimate national energy concerns, and thus a review of the State Implementation Plans is a logical follow-up to EPA's initial appraisal (1972) of the SIPs. At the time, SIPs were approved by EPA if they demonstrated the attainment of the original NAAQS or the more stringent state air quality standards. Also, at that time an acceptable method for formulating control strategies was the use of an example region for demonstrating the attainment of the standards.

The example region concept permitted a state to identify the most polluted air quality control region and adopt control regulations which would be adequate to attain the NAAQS in that region. In using an example region, it was assumed that NAAQS would be attained in the other AQCRs of the state if the control regulations were applied to similar sources. But use of an example region can result in excessive controls, especially in the utilization of clean fuels, for areas of the state where sources would not

otherwise contribute to NAAQS violations. For example, a control strategy based on a particular region or source can result in a regulation requiring one percent sulfur oil to be burned statewide, even though the use of three percent sulfur coal would be adequate to attain NAAQS in some locations.

EPA anticipates that a number of states will use the review findings to assist them in deciding whether or not to revise portions of their State Implementation Plans. However, it is most important for such states to recognize the limitations of the present review. The findings of this report are by no means conclusive and are neither intended nor adequate to be the sole basis for SIP revisions; they do, however, represent EPA's best judgment and effort in complying with the ESECA requirements. The time and resources which EPA has had to prepare the reports has not permitted the consideration of growth, economics, and control strategy tradeoffs. Also, there has been only limited dispersion modeling data available by which to address individual point source emissions. Where the modeling data for specific sources was found, however, it was used in the analysis.

The data upon which the reports' findings are based is the most currently available to the federal government. However, EPA believes that the states possess the best information for developing revised plans. The states have the most up-to-date air quality and emissions data, a better feel for growth, and the fullest understanding for the complex problems facing them in the attainment and maintenance of air quality. Therefore, those states desiring to revise a plan are encouraged to verify and, in many instances, expand the modeling and monitoring data used to support EPA's findings. States are encouraged to consider the overall impact which the potential relaxation of overly restrictive emissions regulations for combustion sources might have on their future control programs. This may include air quality maintenance, prevention of significant deterioration, increased TSP, NO_x, and HC emissions which occur in fuel switching, and other potential air pollution situations.

Although the enclosed analysis has attempted to address the attainment of all the NAAQS, most of the review has focused on total suspended particulate matter (TSP) and sulfur dioxide (SO_2) emissions. This is because stationary fuel combustion sources constitute the greatest source of SO_2 emissions and are a major source of TSP emissions.

The following are the principle findings for the State of Tennessee (Air Quality Control Regions are displayed in Figure 1-1):

- The State has adopted the federal National Ambient Air Quality Standards for particulate matter and SO_2. In addition, the State has retained the former federal secondary annual SO_2 standard and has a secondary 24-hour SO_2 standard which is slightly more stringent than the federal primary SO_2 standard.
- The original particulate and sulfur dioxide emission limitations were developed under the example region concept. In November of 1973 the sulfur dioxide fuel combustion regulations were revised, based upon individual analyses for each major power generating facility. EPA approved this revised regulation as a plan revision in August of 1974 except for the Kingston Steam Plant, located in Roane County and the Johnsonville Steam Plant, located in Humphreys County where the original emission limit remains in effect.
- Within the framework of this limited analysis, there appears little margin for relaxing particulate fuel combustion emission regulations in any of the Tennessee AQCR's, as all AQCR's in the State report violations of the particulate NAAQS.
- Based on modeling results and reported air quality violations, no potential exists for SO_2 regulation relaxation in the Tennessee portion of the Eastern Tennessee-Southwestern Virginia Interstate (#207) AQCR. In the Middle Tennessee Interstate (#208), modeling results for major fuel combustion sources indicate a potential for regulation relaxation in all areas except in the vicinity of the Johnsonville Steam Plant in Humphreys County. Based on reported air quality data, the potential for regulation revision exists in the Metropolitan Memphis Interstate (#18), Tennessee Valley-Cumberland Mountains Interstate (#7), Chattanooga Interstate (#55) and the Western Tennessee Intrastate (#209). However, since only limited modeling data is currently available for these regions, a detailed analysis is necessary to determine the degree of relaxation and its consequences in Clean Fuels Savings.

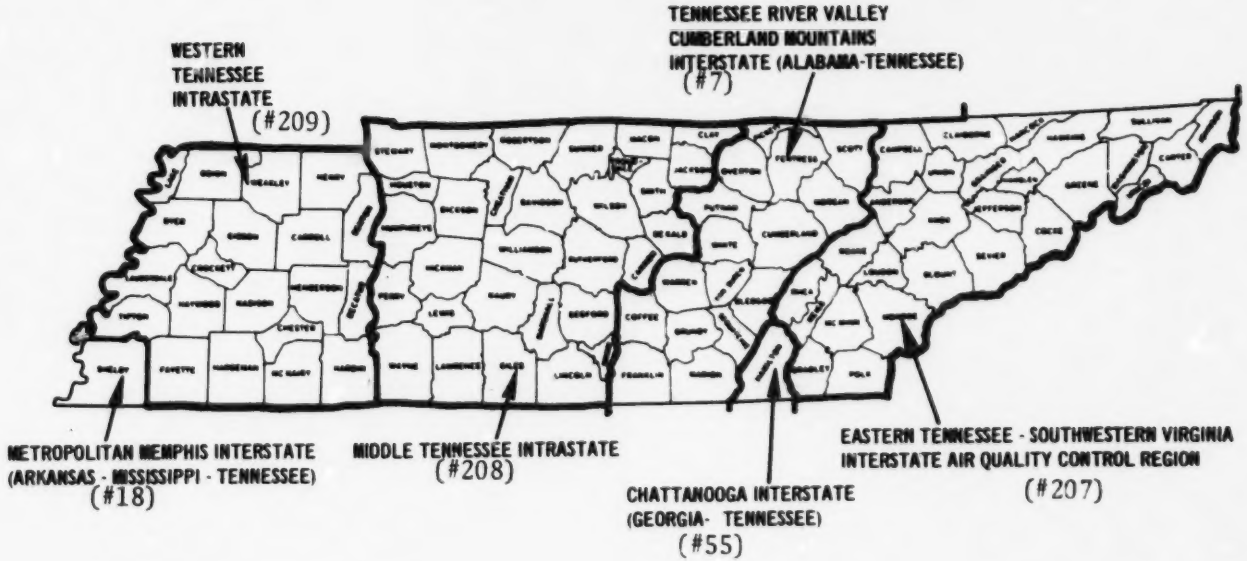

Figure 1-1. Tennessee Air Quality Control Regions (AQCRs)

2.0 TENNESSEE STATE IMPLEMENTATION PLAN REVIEW

2.1 SUMMARY

A revision of fuel combustion source emissions regulations will depend on many factors. For example:

- Does the state have air quality standards which are more stringent than NAAQS?
- Does the state have emission limitation regulations for control of (1) power plants, (2) industrial sources, (3) area sources?
- Did the state use an example region approach for demonstrating the attainment of NAAQS or more stringent state standards?
- Has the state inditiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?
- Are there proposed Air Quality Maintenance Areas?
- Are there indications of a sufficient number of monitoring sites within a region?
- Is there an expected 1975 attainment date for NAAQS?
- Based on (1973) air quality data, are there reported violations of NAAQS?
- Based on (1973) air quality data, are there indications of a tolerance for increasing emissions?
- Are the total emissions from stationary fuel combustion sources a relatively small portion of the regional total?
- Do modeling results for specific fuel combustion sources show a potential for a regulation revision?
- Is there a significant clean fuels savings potential in the region?

This SIP review has answered these questions based on an overall evaluation of EPA's current information. Based on these answers, each AQCR has been assessed as good, marginal, or poor candidate for regulation relaxation. Table 2-1 summarizes the conclusions of this State Implementation Plan Review and gives the overall candidacy assessment for each AQCR.

The ratings which are shown in Table 2-1 were determined by assessing the following criteria:

Good	Poor	Marginal
1) Adequate number of air monitoring sites	1) Violation of NAAQS	1) No air quality data or insufficient number of monitoring sites
2) No NAAQS violations	2) Attainment data for NAAQS later than 1975	2) Inconsistent "indicators"
3) Attainment data of 1975 for NAAQS in the SIP	3) Proposed AQMA	
4) No proposed AQMAs	4) Model results show no potential for regulation revision	
5) Modeling results show a potential for regulation revision		

For an AQCR to be rated as a good candidate, all of the criteria listed under "Good" would have to be satisfied. The overriding factor in rating an AQCR as a poor candidate is a violation of either the primary or secondary National Ambient Air Quality Standards during 1973. However, if any of the other conditions listed under "Poor" exists, the AQCR would still receive that rating. The predominant reason for a marginal rating is a lack of sufficient air quality data. In Priority III regions, air monitoring was not required during 1973; therefore there are little if any data with which to determine the current air quality status. Marginal ratings are also given when there are varying or inconsistent "indications".

Table 2-1. State Implementation Plan Review (Summary)

"INDICATORS"	STATE		TENNESSEE RIVER VALLEY -CUMBERLAND MOUNTAINS INTERSTATE AQCR # 7		METROPOLITAN MEMPHIS INTERSTATE AQCR # 18		CHATTANOOGA INTERSTATE AQCR # 55		EASTERN TENNESSEE -SOUTHWESTERN VIRGINIA INTERSTATE AQCR # 207		MIDDLE TENNESSEE INTRASTATE AQCR # 206		WESTERN TENNESSEE INTRASTATE AQCR # 209	
	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2	TSP	SO_2
• Does the State have air quality standards which are more stringent than NAAQS?	NO	YES[1]												
• Does the State have emission limiting regulations for control of: 1. Power plants 2. Industrial sources 3. Area sources	YES YES YES	YES YES YES												
• Did the State use an example region approach for demonstrating the attainment of NAAQS or more stringent State standards?	YES	4												
• Has the State initiated action to modify combustion source emission regulations for fuel savings; i.e., under the Clean Fuels Policy?	NO	YES												
• Are there proposed Air Quality Maintenance Areas?			NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO
• Are there indications of a sufficient number of monitoring sites within a region?			YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NDA
• Is there an expected 1975 attainment date for NAAQS? [5]			YES	2	YES	2	YES	2	YES	YES	YES	2	YES	3
• Based on reported (1973) Air Quality Data, does air quality meet NAAQS?			NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	NDA
• Based on reported (1973) Air Quality Data, are there indications of a tolerance for increasing emissions?			NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	N/A
• Are the total emissions from stationary fuel combustion sources lower than those of other sources?			NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	YES	NO
• Do modeling results for specific fuel combustion sources show a potential for a regulation revision?			NDA	NDA	NDA	YES	NDA	NDA	NDA	NO	NDA	YES	NDA	NDA
• Based on the above indicators, what is the potential for revising fuel combustion source emission limiting regulations?			Poor	Good	Poor	Good	Poor	Good	Poor	Poor	Poor	Good	Poor	Marginal
• Is there a significant Clean Fuels Saving potential in the region?			N/A	NDA	N/A	NDA	N/A	NDA	N/A	NO	N/A	YES	N/A	NDA

Table 2-1. State Implementation Plan Review (Summary) (Continued)

[1] The State has secondary annual and 24-hour standards which are more stringent than the federal primary standards.

[2] Presently meeting standards

[3] Attainment schedule indicates region is below standards; current data is unavailable

[4] The revised control strategy considered modeling for individual power plants

[5] Based on approved attainment dates in the Federal Register (May 31, 1972)

NDA = No data available

N/A = Not available

2.2 AIR QUALITY SETTING FOR THE STATE OF TENNESSEE

2.2.1 Tennessee Air Quality Control Regions

The State of Tennessee is divided into six Air Quality Control Regions as shown in Figure 1-1. There are four interstate and two intrastate regions. Only two regions -- the Tennessee River Valley-Cumberland Mountains Interstate (#7) and the Western Tennessee Intrastate (#209) -- have a relatively small population density (less than 75 people per square mile). Based on present conditions and growth projections for the state, two counties in Tennessee -- Davidson County in the Middle Tennessee Intrastate (#208) and Hamilton County in the Chattanooga Interstate (#55) -- have been designated as proposed Air Quality Maintenance Areas (AQMAs) for particulate matter. No Tennessee counties have been proposed as AQMAs for sulfur dioxide.

2.2.2 Tennessee Ambient Air Quality Standards

All the federal primary and secondary National Ambient Air Quality Standards (NAAQS) for particulates, sulfur dioxide and nitrogen dioxide apply in Tennessee. In addition the state has an annual sulfur dioxide standard equivalent to the old federal annual secondary sulfur dioxide standard which has been rescinded by EPA. Tennessee also has a secondary 24 hr SO_2 standard of 364 $\mu g/M^3$. These state SO_2 standards are more stringent than the present federal primary standards. Tennessee air quality standards are summarized in Table 2-2. This review considers only the attainment of the federal NAAQS.

2.2.3 Tennessee Air Quality Status

Based on data in the SAROAD data banks as of June, 1974, both the annual and 24 hour particulate NAAQS are being violated in all regions except for the Eastern Tennessee - Southwestern Virginia Interstate (#207) and the Western Tennessee Intrastate (#209). In these two AQCR's, the 24 hour NAAQS is being violated.

SO_2 air quality data is unavailable for the Western Tennessee Intrastate (#209) and no annual data is available for the Tennessee River Valley-Cumberland Mountains Interstate (#7), Metropolitan Memphis Interstate (#18)

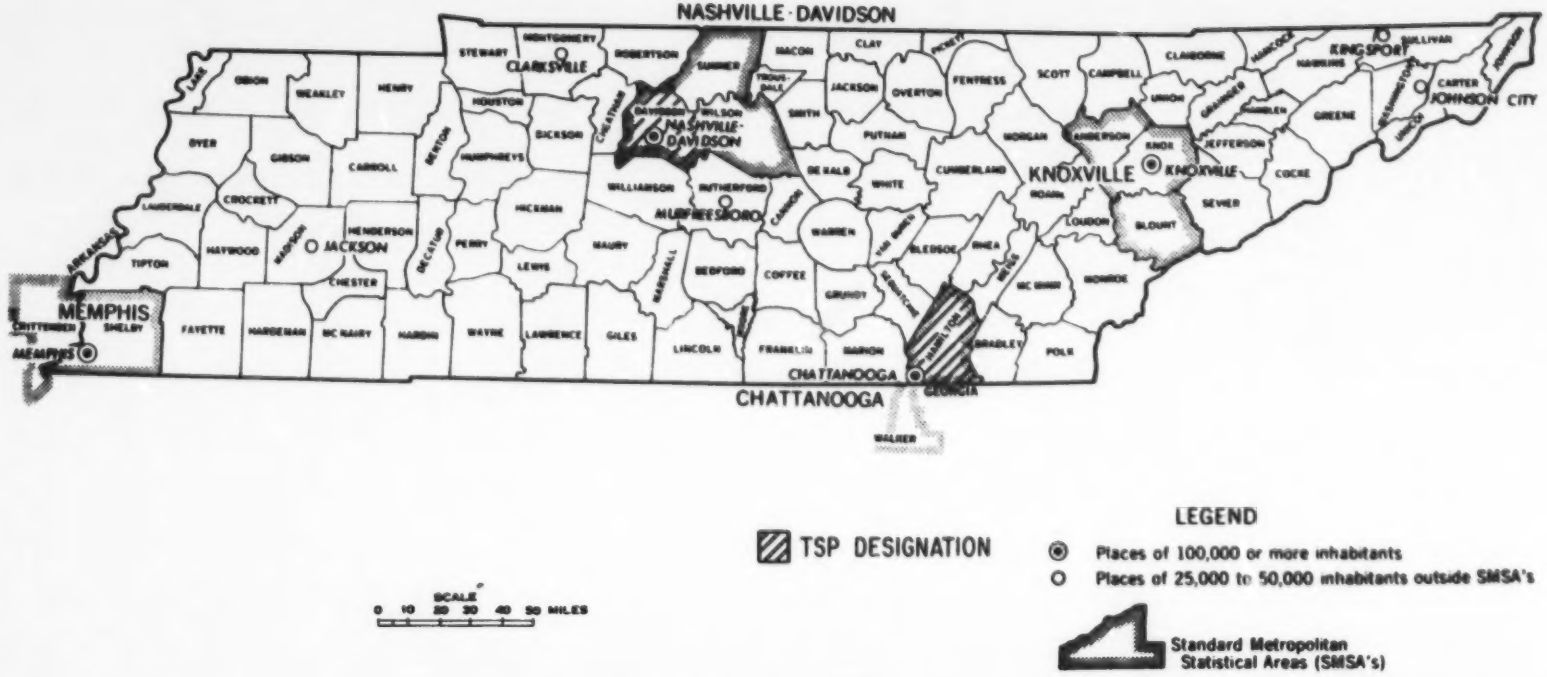

Figure 2-1. Proposed Tennessee Air Quality Maintenance Areas (AQMAs)

Table 2-2. Tennessee Ambient Air Quality Standards

All Concentrations in $\mu g/m^3$

		Total Suspended Particulate		Sulfur Oxides			Nitrogen Dioxide
		Annual	24-Hour	Annual	24-Hour	3-Hour	Annual
Federal	Primary	75 (G)	260[a]	80 (A)	365[a]	---	100 (A)
	Secondary	60 (G)	150[a]	---	---	1300[a]	100 (A)
State	Primary	75 (G)	260[a]	80 (A)	365[a]	---	100 (A)
	Secondary	60 (G)	150[a]	60 (A)[b]	364[a]	1300[a]	100 (A)

[a]Not to be exceeded more than once per year.

[b]Was adopted based on original EPA policy which was rescinded July, 1973

(A) Arithmetic mean
(G) Geometric mean

and the Eastern Tennessee - Southwestern Virginia Interstate (#207). The only reported violation of any standard occurred in the Eastern Tennessee-Southwestern Virginia Interstate (#207), where the 24 hour SO_2 NAAQS is exceeded.

2.2.4 Tennessee Emissions Summary

Tennessee fuel combustion sources account for less than 50% of the total particulate emissions in all AQCR's except for the Middle Tennessee Intrastate (#208). The largest fraction of particulate emissions from fuel burning in Tennessee comes from industrial/commercial/institutional point sources in the Chattanooga Interstate (#55) and the Eastern Tennessee-Southwestern Virginia Interstate (#207), area sources in the Tennessee River Valley - Cumberland Mountains Interstate (#7), Metropolitan Memphis Interstate (#18) and the Western Tennessee Intrastate (#209) and power plants in the Middle Tennessee Intrastate (#208).

In all AQCR's in which there are Tennessee power plants, these sources contribute over 50% of the total SO_2 emissions. For regions without power plants, the largest fraction of Tennessee fuel combustion SO_2 emissions emanate from area sources in the Tennessee River Valley - Cumberland Mountains Interstate (#7) and the Western Tennessee Intrastate (#209) and industrial/commercial/institutional point sources in the Chattanooga Interstate (#55).

2.3 BACKGROUND ON THE DEVELOPMENT OF THE CURRENT STATE IMPLEMENTATION PLAN

2.3.1 General Information

The example region approach was used to develop the original Tennessee State Implementation Plan. The Eastern Tennessee - Southwestern Virginia Interstate (#207) was selected as the example region for both suspended particulates and sulfur dioxide. The control stragegy for particulates was tested with the Air Quality Display Model (AQDM) and the proportional model. The AQDM was utilized in Knoxville and Nashville while the proportional model was applied in Memphis and Chattanooga. As for sulfur dioxide, the AQDM and/or the proportional model were applied, depending on the individual counties within the example region. The SO_2 control strategy was revised in November of 1973, with the revision based on the AQDM, proportional modeling and the analysis of individual power plants.

2.3.2 Particulate Control Stragegy

The control stragegy for particulate emissions from fuel combustion sources consists of enforcing Section 2 of Chapter VI of the Tennessee Air Pollution Control Regulation. The regulations are designed to meet the annual secondary NAAQS throughout Tennessee and consist of two sections- one for existing and one for new sources. The pertinent portions of the regulations are summarized in Table 2-3 and Figure 2-2.

2.3.3 Sulfur Dioxide Control Stragegy

The original control strategy for SO_2 fuel combustion emissions was amended by the Tennessee Air Pollution Control Board in November of 1973. The revised strategy assigns each county in the state a classification of either Class I, Class II or Class III based on the following criteria:

	Class I Greater than	Class II From-to	Class III Less than
Annual arithmetic mean ($\mu g/M^3$)	100	60-100	60
24 hour maximum ($\mu g/M^3$)	455	260-455	260
3 hour maximum ($\mu g/M^3$)		1300[A]	

[A]Any concentration above 1300 $\mu g/M^3$

Emmision standards for each class of counties are as follows:

Class IA . . . . . 1.6 $lb/10^6$Btu
Class I . . . . . 1.6 $lb/10^6$ Btu
Class II . . . . . 3.0 $lb/10^6$ Btu
Class III . . . . . 4.0 $lb/10^6$ Btu

The classification system placed Polk County in Class IA; Maury, Roane and Sullivan Counties in Class I; Humphreys County in Class II; and all other counties in Class III. Control strategy testing was performed for each Class IA, I and II county, as well as for each individual power plant. EPA approved this revision except for boilers and furnaces with a maximum rated heat input exceeding 1000 million Btu per hour and located in Roane and Humphreys Counties, where the old regulation of 1.2 lb SO_2 /10^6 Btu heat input still applies.

Table 2-3 presents the relevant portions of the regulations.

Table 2-3. Tennessee Fuel Combustion Emission Regulations

Particulate Matter

A. Choice of Standards - Existing Fuel Burning Equipment

The owner or operator of existing fuel burning equipment may elect to be regulated by emission limits established by either Subsection 1 or 2 of this section unless otherwise indicated. After July 1, 1975, all existing fuel burning installations shall be required to comply with the emission regulations as given in Subsection 2. The owner or operator of a facility in existance on or before the effective date of this regulation must designate, in writing, to the Technical Secretary, not later than July 1, 1972, which Subsection is selected. In the event the owner or operator makes no selection within the prescribed time period, Subsection 2 will be applicable.

1. Diffusion Equation

For existing installations up to and including 4000 million Btu per hour total plant heat input, the maximum allowable particulate emission shall be as determined by the following equation, provided, however, that no emission in excess of six tenths (0.6) pounds per million Btu shall be permitted from any installation. Such limit shall be achieved by August 9, 1973.

$$D = \frac{20650\ a\ h}{Q^{0.75}}$$

in which D is the maximum allowable particulate emission in pounds per million Btu heat input, h is the stack height in feet, a is a diminsionless factor of 0.67 for stacks of 200 feet height and less, and 0.80 for stacks in excess of 200 feet, and Q is the combined heat input in Btu per hour to the entire fuel burning installation.

Table 2-3. Tennessee Fuel Combustion Emission Regulations (Continued)

When more than one stack of the same height serves a given installation, the allowable emission limit as determined by the above equation shall be further reduced by dividing the emission limit so obtained by $n^{0.25}$, where n is the number of stacks of equal height. Stacks varying in height may be construed as being of equal height provided a weighted average stack height is used in computing the allowable emission limit.'

2. Heat Input

The maximum allowable particulate emission limits as given in this Subsection are based upon the total plant rate of input to one or more stacks.

For existing installations up to and including 4000 million Btu per hour total plant heat input, the maximum allowable particulate emission shall be determined from Figure 2-2, existing curve, shall be achieved by August 9, 1973.

Emission limits for all existing fuel burning installations in excess of 4000 million Btu per hour will be determined by Figure 2-2, existing particulate curve, up to 10,000 million Btu per hour heat input. Emission limits from existing installations in excess of 10,000 million Btu per hour will be determined from Figure 2-2. This allowable emission standard must be attained on or before July 1, 1975.

B. New Fuel Burning Equipment

For fuel burning installations constructed after the effective date of this regulation, the maximum allowable particulate emission shall be determined from Figure 2-2, new particulate curve, based upon the total plant rate of heat input to one or more stacks. This allowable emission standard must be attained at the time such fuel burning installation begins operation.

Sulfur Dioxide

A. On or after July 1, 1975, the owner or operator of an air contaminant source located in a Class I County shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 1.6 pounds per million Btu heat input, maximum 2 hour average.

B. On or after July 1, 1975, the owner or operator of an air contaminant source located in a Class II County shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated

Table 2-3. Tennessee Fuel Combustion Emission Regulations (Continued)

as sulfur dioxide) in excess of 3.0 pounds per million Btu heat input maximum 2 hour average.

C. On or after July 1, 1975, the owner or operator of an air contaminant source located in a Class II I County shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 4.0 pounds per million Btu heat input, maximum 2 hour average.

D. After January 1, 1973, fuel burning installations with a rated capacity of 250 million Btu per hour or less heat input, constructed after April 3, 1972, shall not cause, suffer, allow or permit the emission of sulfur oxides (calculated as sulfur dioxide) in excess of those limits specified in A), B) and C) above.

E. After January 1, 1973, the owner or operator of an air contaminant source with more than 250 million Btu per hour heat input, constructed after April 3, 1972, shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of the following:

a. 0.08 lbs per million Btu heat input, maximum 2 hour average, when liquid fossil is burned.

b. 1.2 lbs per million Btu heat input, maximum 2 hour average, when solid fossil fuel is burned.

c. Where different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration. Compliance shall be determined by using the following formula:

$$\frac{Y(0.80) + Z(1.2)}{X + Y + Z}$$

where: X = % of total heat input derived from gaseous fossil fuel

Y = % of total heat input derived from liquid fossil fuel

Z = % of total heat input derived from solid fossil fuel

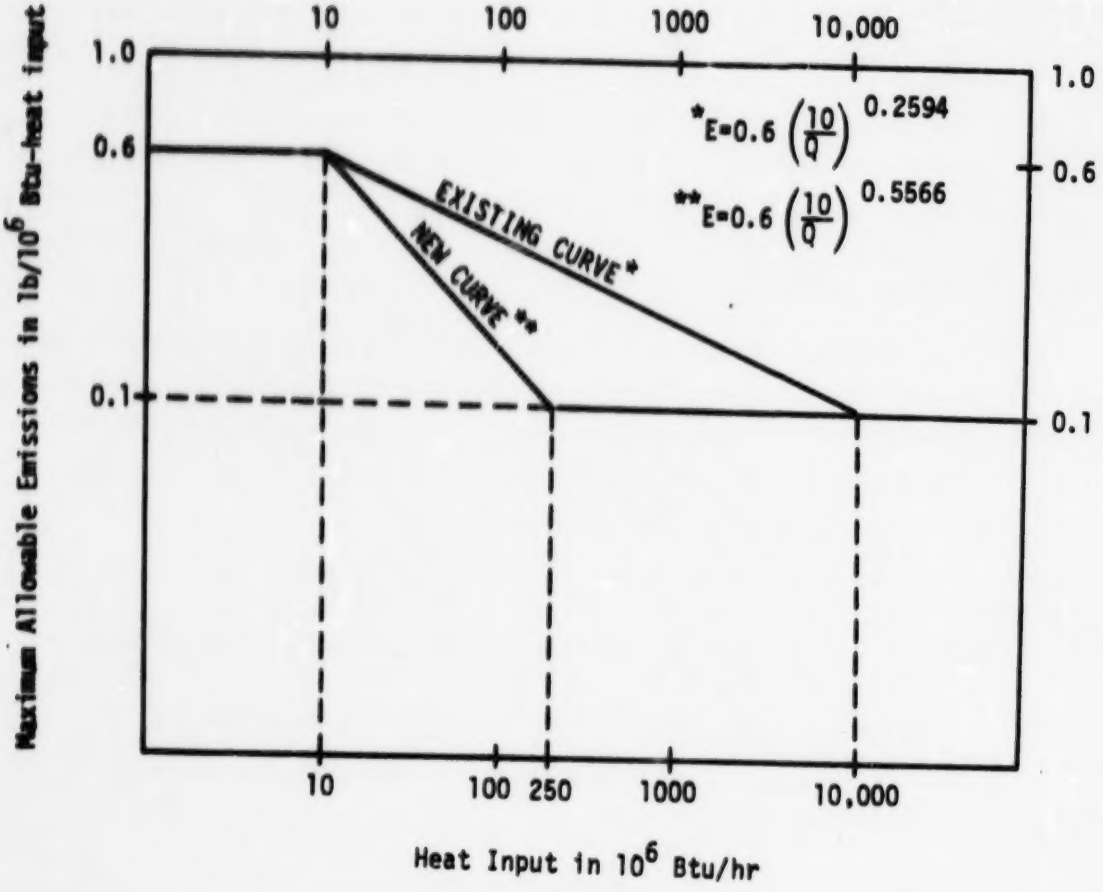

Figure 2-2 Maximum Allowable Particulate Emission Standards for Fuel Burning Installations